

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2002-075557

(43)Date of publication of application : 15.03.2002

(51)Int.Cl.

H01R 24/02  
// H01R103:00

(21)Application number : 2000-368698

(71)Applicant : AUTO NETWORK GIJUTSU  
KENKYUSHO:KK  
SUMITOMO WIRING SYST LTD  
SUMITOMO ELECTRIC IND LTD

(22)Date of filing : 04.12.2000

(72)Inventor : KANEKAWA SHUICHI  
MIZUTANI YOSHIO

(30)Priority

Priority number : 2000175080

Priority date : 12.06.2000

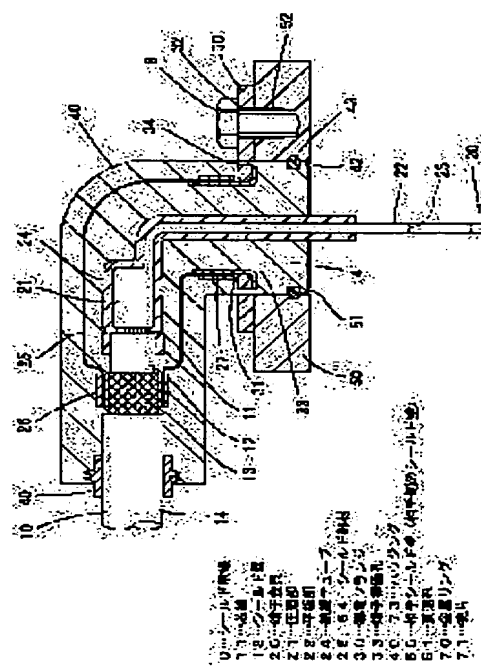
Priority country : JP

## (54) SHIELDED CONNECTOR

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a miniaturizable shielded connector capable of arranging a shield electric wire parallelly to a counterpart shield wall.

SOLUTION: A terminal metal fitting 20 housed inside the shielded connector is formed into an L-shape by bending a flat plate 22 extending from a crimped part 21 at right angles, while the flat plate 22 can be bent in the thickness direction with a radius smaller than that of the shield electric wire 10 even if its cross sectional area is set equal to that of the a core wire 11 in the shield electric wire 10. In this way, the dimension of the bending part is reduced, and consequently, the dimension of the shielded connector can be reduced as a whole.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

\* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

CLAIMS

---

[Claim(s)]

[Claim 1] It comes to hold the end face side of the terminal metallic ornaments stuck to the core wire of said shielding electric wire by pressure in the interior of housing which covered the terminal section of a shielding electric wire. It is attached in the through tube formed in the shielding wall of the other party. The shielding layer of said shielding electric wire in the shielding connector which makes flow connection at the shielding wall of said other party, and holds the tip side of said terminal metallic ornaments in the condition of having made shielding Kabeuchi of said other party rushing in said terminal metallic ornaments While bending the monotonous section which carried out continuation formation from the sticking-by-pressure section to said core wire and forming the whole in the shape of L character From the end face side of the terminal metallic ornaments to a tip approach location is covered by the insulating member. Inside said housing The outside of said insulating member which covered said terminal metallic ornaments is established in a wrap shielding member. The end of the shielding member It is the shielding connector characterized by allotting the other end to a contact part with the shielding wall of said other party among said housing while flow connection is made succeeding said shielding layer of said shielding electric wire.

[Claim 2] Said insulating member which covered said terminal metallic ornaments is a shielding connector according to claim 1 characterized by having consisted of insulating tubes of heat shrink nature, or having applied the insulating resin of a melting condition to said terminal metallic ornaments, and being formed.

[Claim 3] Said housing is a shielding connector according to claim 1 or 2 characterized by having been filled up with synthetic resin in the metal mold for resin shaping which inserted said shielding electric wire, and being fabricated.

[Claim 4] The shielding connector according to claim 3 characterized by having allotted the electric conduction flange which comes to carry out penetration formation of the terminal insertion hole to the conductive member in said metal mold with said shielding electric wire, having made said terminal insertion hole insert in said terminal metallic ornaments, having connected the tip of said shielding member to said electric conduction flange further, and fabricating said housing with the synthetic resin with which it was filled up in said metal mold.

[Claim 5] It comes to hold the end face side of the terminal metallic ornaments stuck to the core wire of said shielding electric wire by pressure in the interior of housing which covered the terminal section of a shielding electric wire. It is attached in the through tube formed in the shielding wall of the other party. The shielding layer of said shielding electric wire in the shielding connector which makes flow connection at the shielding wall of said other party, and holds the tip side of said terminal metallic ornaments in the condition of having made shielding Kabeuchi of said other party rushing in said terminal metallic ornaments While carrying out rigid-angle bending of the monotonous section which carried out continuation formation towards the direction which intersects perpendicularly with said shielding electric wire from the sticking-by-pressure section to said core wire and forming the whole in the shape of L character From the end face side of the terminal metallic ornaments to a tip approach location is stuck with the insulating tube of heat shrink nature. In a wrap The insulating resin of a melting condition is applied and covered. Or said housing The shielding connector characterized by being fabricated in the shape of [ corresponding to said terminal metallic ornaments ] L character with the conductive synthetic resin with which inserted said shielding electric wire in the metal mold for resin shaping where said shielding layer is exposed, and it was filled up there.

[Claim 6] The shielding connector according to claim 5 characterized by having installed two or more protruding pieces towards the side from the metal ring, having filled up the surroundings of said metal ring and said protruding piece with said conductive synthetic resin, and fabricating said housing while the metal

ring was stuck to the shielding layer exposed among said shielding electric wires by pressure.

[Claim 7] It comes to hold the terminal metallic ornaments stuck to the core wire of said shielding electric wire by pressure in the interior of housing which covered the terminal section of a shielding electric wire. In the shielding connector which is attached in the through tube formed in the shielding wall of the other party, and makes flow connection of the shielding layer of said shielding electric wire at the shielding wall of said other party said terminal metallic ornaments While bending Itabe who did continuation formation from the 1st sticking-by-pressure section to said core wire and forming the whole in the shape of L character, the terminal metallic ornaments are covered by the insulating member. Inside said housing The outside of said insulating member which covered said terminal metallic ornaments is established in a wrap shielding member. The end of the shielding member While flow connection is made succeeding said shielding layer of said shielding electric wire, the other end The shielding connector characterized by preparing the 2nd sticking-by-pressure section which was allotted to the contact part with the shielding wall of the other party among said housing, was located in the interior of said housing in said 1st sticking-by-pressure section in said terminal metallic ornaments, and the edge of the opposite side, and stuck the junction electric wire by pressure.

[Claim 8] It is a shielding connector given in either among claim 1 characterized by preparing the shielding member for said insulating member in the holddown member which is fixable to an adhesion condition to an insulating member on the outside of the wrap aforementioned shielding member, claim 2, claim 3, claim 4, or claim 7.

---

[Translation done.]

\* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

DETAILED DESCRIPTION

---

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention is prepared in the terminal section of a shielding electric wire, and relates to the shielding connector attached in the through tube formed in the shielding wall of the other party.

[0002]

[Description of the Prior Art] Conventionally, as an example of this kind of shielding connector, as shown in drawing 8 and drawing 9, what was carried by JP,11-26093,A is equipped with a rubber ring 2, a retaining ring 3, a conducting sleeve 4, and a ferrule 5 in the cylindrical straight \*\*\*\*\* housing 1, and makes further the structure which has arranged the flow contact segment 6 to the front end peripheral face of housing 1. And housing 1 is attached so that the terminal section of the shielding electric wire 10 may be covered, among [ flange ] housing 1, fitting is carried out to the through tube which formed the tip side in the shielding wall of the other party, and a stop is \*\*\*\*\*ed and carried out to the shielding wall of the other party with the bolt which a part of flange does not illustrate.

[0003]

[Problem(s) to be Solved by the Invention] By the way, there is a case where he wants to manage a shielding electric wire in the direction which was concurrent with the shielding wall of the other party on the relation of a tooth space. However, such management structure cannot be taken in the above-mentioned conventional shielding connector. On the other hand, for example, the above-mentioned tubed housing 1 is made only crooked in the shape of L character, and if it is the configuration which incurvated the shielding electric wire in the interior, the whole shielding connector will become large on the relation of the permission crookedness radius of a shielding electric wire.

[0004] Moreover, since its components mark will increase very much as shown in drawing 9 if the conventional shielding connector has at least six basic component parts (components which attached the above-mentioned signs 1-6) and the other fine components are set, a shielding connector will enlarge it only by transforming the conventional structure.

[0005] This invention aims at offer of the shielding connector which was made in view of the above-mentioned situation, and can manage a shielding electric wire in the direction which was concurrent with the shielding wall of the other party, and can be miniaturized.

[0006]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, the shielding connector concerning invention of claim 1 It comes to hold the end face side of the terminal metallic ornaments stuck to the core wire of said shielding electric wire by pressure in the interior of housing which covered the terminal section of a shielding electric wire. It is attached in the through tube formed in the shielding wall of the other party. The shielding layer of said shielding electric wire In the shielding connector which makes flow connection at the shielding wall of said other party, and holds the tip side of said terminal metallic ornaments in the condition of having made shielding Kabeuchi of said other party rushing in said terminal metallic ornaments While bending the monotonous section which carried out continuation formation from the sticking-by-pressure section to said core wire and forming the whole in the shape of L character From the end face side of the terminal metallic ornaments to a tip approach location is covered by the insulating member. Inside said housing The outside of said insulating member which covered said terminal metallic ornaments is established in a wrap shielding member. The end of the shielding member While flow connection is made succeeding said shielding layer of said shielding electric wire, the other end has the description at the place allotted to the contact part with the shielding wall of said other party among said

housing.

[0007] The insulating member to which invention of claim 2 covered terminal metallic ornaments in the shielding connector according to claim 1 has the description at the place which consisted of insulating tubes of heat shrink nature, or applied the insulating resin of a melting condition to terminal metallic ornaments, and was formed.

[0008] Invention of claim 3 has the description in a shielding connector according to claim 1 or 2 at the place which housing was filled up with synthetic resin in the metal mold for resin shaping which inserted the shielding electric wire, and was fabricated.

[0009] In a shielding connector according to claim 3, it allots the electric conduction flange which comes to carry out penetration formation of the terminal insertion hole to a conductive member in metal mold with a shielding electric wire, and invention of claim 4 makes a terminal insertion hole insert in terminal metallic ornaments, and further, the tip of a shielding member is connected to an electric conduction flange, and it has the description at the place which fabricated housing with the synthetic resin with which it was filled up in metal mold.

[0010] The shielding connector concerning invention of claim 5 inside housing which covered the terminal section of a shielding electric wire It is attached in the through tube which came to hold the end face side of the terminal metallic ornaments stuck to the core wire of a shielding electric wire by pressure, and was formed in the shielding wall of the other party. In the shielding connector which makes flow connection of the shielding layer of a shielding electric wire at the shielding wall of the other party, and holds the tip side of terminal metallic ornaments in the condition of having made shielding Kabeuchi of the other party rushing in While terminal metallic ornaments carry out rigid-angle bending of the monotonous section which carried out continuation formation towards the direction which intersects perpendicularly with a shielding electric wire from the sticking-by-pressure section to a core wire and the whole is formed in the shape of L character From the end face side of the terminal metallic ornaments to a tip approach location is stuck with the insulating tube of heat shrink nature. In a wrap Or the insulating resin of a melting condition is applied and covered, and housing inserts a shielding electric wire in the metal mold for resin shaping, where a shielding layer is exposed, and it has the description at the place fabricated with the conductive synthetic resin with which it was filled up there in the shape of [ corresponding to terminal metallic ornaments ] L character.

[0011] In a shielding connector according to claim 5, two or more protruding pieces are installed towards the side from the metal ring, and invention of claim 6 has the description at the place where the surroundings of a metal ring and a protruding piece were filled up with conductive synthetic resin at, and housing was fabricated, while a metal ring is stuck to the shielding layer exposed among shielding electric wires by pressure.

[0012] The shielding connector concerning invention of claim 7 inside housing which covered the terminal section of a shielding electric wire In the shielding connector which is attached in the through tube which came to hold the terminal metallic ornaments stuck to the core wire of said shielding electric wire by pressure, and was formed in the shielding wall of the other party, and makes flow connection of the shielding layer of said shielding electric wire at the shielding wall of said other party While said terminal metallic ornaments bend Itabe who did continuation formation from the 1st sticking-by-pressure section to said core wire and the whole is formed in the shape of L character, the terminal metallic ornaments are covered by the insulating member. Inside said housing The outside of said insulating member which covered said terminal metallic ornaments is established in a wrap shielding member. The end of the shielding member While flow connection is made succeeding said shielding layer of said shielding electric wire, the other end It is allotted to a contact part with the shielding wall of the other party among said housing, and has the description at the place where the 2nd sticking-by-pressure section which was located in the interior of said housing and stuck the junction electric wire by pressure is prepared in said 1st sticking-by-pressure section in said terminal metallic ornaments, and the edge of the opposite side.

[0013] Invention of claim 8 has the description in a shielding connector given in either at the place where the shielding member is prepared for said insulating member in the holddown member which is fixable to an adhesion condition to the insulating member on the outside of the wrap aforementioned shielding member among claim 1, claim 2, claim 3, claim 4, or claim 7.

[0014]

[Function and Effect of the Invention] If housing of the shielding connector concerning invention of <invention of claim 1> claim 1 is attached in the shielding wall of the other party, at the end side of housing, the terminal metallic ornaments stuck to the core wire of a shielding electric wire by pressure rush into

shielding Kabeuchi, and a shielding electric wire will be extended in parallel to the shielding wall of the other party in the other end side of housing. Here, in the thickness direction, although terminal metallic ornaments carry out rigid-angle bending of the monotonous section prolonged from the sticking-by-pressure section and it is formed in the shape of L character, even if it makes the monotonous section into the same cross section as the core wire of a shielding electric wire, since you can make it crooked in a small crookedness radius compared with a shielding electric wire, the miniaturization for a flection is attained, as a result the miniaturization of the whole shielding connector is attained.

[0015] With the configuration of <invention of claim 2> claim 2, since terminal metallic ornaments heat the insulating tube of heat shrink nature, and are covered with an adhesion condition, or the insulating resin of a melting condition is applied and it is covered with the layer of the insulating resin, in few tooth spaces, terminal metallic ornaments and a shielding member can be insulated and the miniaturization of a shielding connector is attained. In addition, in order to apply the insulating resin of a melting condition to terminal metallic ornaments, the so-called dipping processing which soaks terminal metallic ornaments at insulating resin is mentioned to a melting condition.

[0016] With the configuration of <invention of claim 3> claim 3, since housing was used as the insertion mold goods concerning a shielding electric wire, drastic reduction of components mark can be aimed at compared with the thing of attachment structure. Moreover, if terminal metallic ornaments are covered in the layer of the insulating tube of heat shrink nature described above before insert molding, or insulating resin, a shielding member can prevent the situation of contacting terminal metallic ornaments, with the resin pressure at the time of housing shaping.

[0017] With the configuration of <invention of claim 4> claim 4, if an electric conduction flange is pressed against the opening edge of the through tube of the shielding wall of the other party, flow connection of the shielding layer of a shielding electric wire will be made at the shielding wall of the other party through the shielding member connected to the electric conduction flange and it.

[0018] According to the configuration of <invention of claim 5> claim 5, since housing was used as the insertion mold goods concerning a shielding electric wire in addition to the operation effectiveness of above-mentioned claim 1, drastic reduction of components mark is achieved. And since housing consists of conductive synthetic resin and it sticks to a shielding layer, the whole housing serves as the role of a wrap shielding member, has terminal metallic ornaments, and much more reduction of components mark and the miniaturization of a shielding connector are attained. Moreover, since terminal metallic ornaments are covered in the layer of an insulating tube or insulating resin, they are certainly insulated from conductive housing.

[0019] According to the configuration of <invention of claim 6> claim 6, a metal ring is stuck to a shielding layer by pressure, and is stabilized mutually, while flow connection is made, it is installing two or more protruding pieces from a metal ring, and it contacts in conductive housing and a large area, and it is stabilized mutually and flow connection is made. Thereby, through a metal ring, conductive housing and the shielding layer of a shielding electric wire are stabilized, and flow connection is made.

[0020] If housing of the shielding connector concerning invention of <invention of claim 7> claim 7 is attached in the shielding wall of the other party, at the end side of housing, the junction electric wire stuck to the 2nd sticking-by-pressure section of terminal metallic ornaments by pressure is inserted in shielding Kabeuchi, and the shielding electric wire stuck to the 1st sticking-by-pressure section by pressure will be in the condition of having extended in parallel with the shielding wall of the other party, by the other end side of housing. Here, although Itabe who connects both the sticking-by-pressure section is formed in the shape of L character, since they can be made crooked in a small crookedness radius in the thickness direction compared with a shielding electric wire even if Itabe makes terminal metallic ornaments the same cross section as the core wire of a shielding electric wire, the miniaturization for a flection is attained, as a result the miniaturization of the whole shielding connector is attained. And the junction electric wire inserted in shielding Kabeuchi of the other party can be managed freely, for example, can be bent in the shape of L character, and can be extended to the sense parallel to the shielding wall of the other party. The degree of freedom at the time of this setting up the location of the connection part of shielding Kabeuchi of the other party linked to the tip side of a junction electric wire becomes possible [ attaining space-saving-ization of increase and shielding Kabeuchi of the other party ].

[0021] According to invention of <invention of claim 8> claim 8, since it is fixable to the condition of having stuck the shielding member to the insulating member by the holddown member, at the time of manufacture of a shielding connector, a shielding member can interfere and deform into other members, or can prevent receiving damage as much as possible.

[0022]

[Embodiment of the Invention] The <1st operation gestalt>, next the 1st operation gestalt of this invention are explained referring to drawing 1 - drawing 4 . It has a core wire 11, the internal insulating layer 12, the shielding layer 13, and the external covering 14, and the shielding electric wire 10 consists of an axial center side, as shown in drawing 1 . And in the terminal section of the shielding electric wire 10, the core wire 11, the internal insulating layer 12, and the shielding layer 13 are gradually exposed from the tip side.

[0023] The cross-section configuration is shown in drawing 2 , and the shielding connector of this operation gestalt is attached in the terminal section of the shielding electric wire 10 in one. In this drawing, signs 20 are terminal metallic ornaments, it has the sticking-by-pressure section 21 which incurvated the metal plate in the shape of U character, and the long tabular monotonous section 22 is installed from the end of the bottom wall of the sticking-by-pressure section 21. And rigid-angle bending of the monotonous section 22 is carried out towards the direction (lower part of drawing 2 ) which intersects perpendicularly with the shielding electric wire 10 on the way, and the side-face configuration of the terminal metallic-ornaments 20 whole has become L typeface as shown in drawing 2 . Moreover, at the tip of the monotonous section 22, as shown in drawing 1 , a long hole 23 is formed and the appearance at the tip of the monotonous section 22 is making roundish [ wore corresponding to the radii of the end of said long hole 23 ].

[0024] As for the above-mentioned terminal metallic ornaments 20, even the part is covered with the insulating tube 24 of heat shrink nature the middle from the end face side. An insulating tube 24 is in the condition that the terminal metallic ornaments 20 were stuck to the core wire 11 by pressure, and the outside of the terminal metallic ornaments 20 lets it pass. And it considers as the condition of the end of an insulating tube 24 having covered the tip of the internal insulating layer 12 of the shielding electric wire 10, and having been located in the part as the other end was the monotonous section 22 among the terminal metallic ornaments 20, and is made to have heated and contracted. This has stuck the insulating tube 24 to the edge and the terminal metallic ornaments 20 of the internal insulating layer 12, as shown in drawing 2 .

[0025] The insulating tube 24 is covered in the outside by the shielding member 25 which made the braided wire tubed. The end of the shielding member 25 is allotted to the outside of the shielding layer 13 in piles among the shielding electric wires 10, for example, the piece 26 (refer to drawing 1 ) of sticking by pressure which makes a metal plate come to curve in the shape of U character is stuck by pressure as \*\* from the side, and, thereby, the end of the shielding member 25 is being fixed to the shielding layer 13 by the condition of having made flow connection. Moreover, the other end of the shielding member 25 is allotted to the condition of having covered the outside of the conducting sleeve 31 with which the electric conduction flange 30 which following-\*\* was equipped, for example, the piece 27 (refer to drawing 1 ) of sticking by pressure which makes a metal plate come to curve in the shape of U character too is stuck by pressure as \*\* from the side, and, thereby, the other end of the shielding member 25 is being fixed to the electric conduction flange 30 by the condition of having made flow connection.

[0026] The electric conduction flange 30 consists of metal plates, and as shown in drawing 1 and drawing 3 , it makes the so-called pear configuration which made a part of periphery of a disk project to the side at a tapered form. And while the bolt insertion hole 32 is formed in the edge which was tapering off, the terminal insertion hole 33 is formed in the location of the central point of a disk, and four resin incurrent pores 34 are further formed in it so that the periphery section of the terminal insertion hole 33 may be allotted the 4th grade. In addition, about this resin incurrent pore 34, it is not limited to what except four and was allotted at equal intervals also about the arrangement location, but can be set as arbitration. [ that number ] Moreover, in drawing 1 , a sign 31 is a metal conducting sleeve, and as a cylindrical end is extracted to the side, it comes to form flange 31A and it is shown in drawing 2 , it is pressed fit in the terminal insertion hole 33 from the edge of flange 31A and the opposite side.

[0027] Among the shielding electric wires 10, the tip of the external covering 14 is covered by the waterproofing cylinder part 49, as shown in drawing 2 . The waterproofing cylinder part 49 inserts the shielding electric wire 10 to the metal mold for resin molding, and it is fabricated by tubed so that the external surface of the external covering 14 may be covered with the resin with which it was filled up in the metal mold. Moreover, the waterproofing cylinder part 49 consists of synthetic resin (for example, urethane) softer than the resin which constitutes the housing 40 of the following \*\*.

[0028] Now, the terminal section of the shielding electric wire 10 is covered with the housing 40 which consists of synthetic resin. More, the shielding electric wire 10 is inserted to the metal mold for resin molding, housing 40 changes insulating synthetic resin (for example, polyamide) into a melting condition, and it is filled up with it in metal mold, and it is fabricated by the detail. At this time, among the terminal metallic ornaments 20 stuck to the shielding electric wire 10 by pressure, the tip of the monotonous section

22 is set to the condition of having inserted in the terminal insertion hole 33 of the electric conduction flange 30, and it fills up with melting resin in metal mold from the tip side of that monotonous section 22. Thereby, while melting resin enters between an insulating tube 24 and the shielding member 25 among housing 40 through the terminal insertion hole 33 of the electric conduction flange 30, melting resin flows into the outside of the shielding member 25 among housing 40 through the surrounding resin incurrent pore 34 of the terminal insertion hole 33. And housing 40 is fabricated in the shape of [ which met the terminal metallic ornaments 20 ] L character, and the electric conduction flange 30 is fixed in the middle of one side of L characters.

[0029] Moreover, as for the tip side of the monotonous section 22, the monotonous section 22 stands the cylinder-like fitting section 41 straight from the apical surface of nothing and its fitting section 41 from the electric conduction flange 30 among housing 40. Furthermore, the O ring slot 42 is formed in the peripheral face of the fitting section 41, and O ring 43 is held here.

[0030] The shielding connector of this operation gestalt constituted as mentioned above is attached in the shielding wall (henceforth "the partner shielding wall 50") which constitutes the outer wall of a motor. As shown in this partner shielding wall 50 at drawing 2, a through tube 51 is formed and the \*\*\*\* hole 52 is formed near that through tube 51. And a shielding connector is fitting the fitting section 41 into a through tube 51, pressing the electric conduction flange 30 against the opening edge, \*\*\*\*ing the bolt B which it let pass to the bolt insertion hole 32, and screwing in a hole 52, and is fixed to the partner shielding wall 50. Then, in the end side of housing 40, while the terminal metallic ornaments 20 stuck to the core wire 11 of the shielding electric wire 10 by pressure rush in into the partner shielding wall 50, the electric conduction flange 30 sticks to the partner shielding wall 50, and flow connection of the shielding layer 13 of the shielding electric wire 10 is made through the electric conduction flange 30 and shielding member 25 at the partner shielding wall 50. And in the other end side of housing 40, the shielding electric wire 10 will be extended in parallel to the partner shielding wall 50. Although the terminal metallic ornaments 20 carry out rigid-angle bending of the monotonous section 22 prolonged from the sticking-by-pressure section 21 here and it is formed in the shape of L character In the thickness direction, even if it makes the monotonous section 22 into the same cross section as the core wire 11 of the shielding electric wire 10, since you can make it crooked in a small crookedness radius compared with the shielding electric wire 10, the miniaturization for a flexion is attained, as a result the miniaturization of the whole shielding connector is attained.

[0031] Thus, according to the shielding connector of this operation gestalt, the shielding electric wire 10 can be managed in the condition of having extended in parallel to the partner shielding wall 50, and, moreover, the miniaturization of a shielding connector can be attained. Moreover, since housing 40 was used as the insertion mold goods concerning the shielding electric wire 10, drastic reduction of components mark is achieved compared with the thing of attachment structure. Furthermore, since the terminal metallic ornaments 20 were covered with the insulating tube 24, there is no fear of the shielding member 25 and the terminal metallic ornaments 20 contacting with the resin pressure at the time of shaping of housing 40. Moreover, since an insulating tube 24 is heat shrink nature, it is stuck to the terminal metallic ornaments 20, and is settled in a small tooth space.

[0032] The shielding connector of the <2nd operation gestalt> book operation gestalt is shown in drawing 5, only a different configuration from said operation gestalt is explained hereafter, the same sign is attached about the same configuration as said 1st operation gestalt, and duplication explanation is omitted.

[0033] The flow sleeve 60 is attached in the outside of the shielding layer 13 among the shielding electric wires 10. The flow sleeve 60 juts a flange 62 out of the end of a barrel 61 towards the side, and makes the structure which carried out deep drawing of the rim section of the flange 62 so that it might be concurrent with the shaft orientations of a barrel 61, and formed the major-diameter cylinder part 63. And the barrel 61 is closed to the shielding layer 13.

[0034] In drawing 5, it is a shielding member, a sign 64 comes to be crooked in the shape of L character in a metallic pipe, and at the end, after forming two or more notching in alignment with shaft orientations which is not illustrated, forming two or more strip-of-paper sections 65 and pressing the end of the shielding member 64 fit in the terminal insertion hole 33 of the electric conduction flange 30, it has started these strips-of-paper section 65 outside. Moreover, among the shielding members 64, from opening of the opposite side of the electric conduction flange 30, it lets the shielding electric wire 10 pass from the terminal metallic-ornaments 20 side, and fitting adhesion of the major-diameter cylinder part 63 of the above mentioned flow sleeve 60 is carried out into the shielding member 64.

[0035] A shielding connector can be attached in the partner shielding wall 50 also as such a configuration,



and the shielding electric wire 10 can be managed in the direction which was concurrent with the partner shielding wall 50, and reduction and a miniaturization of components mark can be attained.

[0036] The shielding connector of the <3rd operation gestalt> book operation gestalt is shown in drawing 6, only a different configuration from said operation gestalt is explained hereafter, the same sign is attached about the same configuration as said 1st operation gestalt, and duplication explanation is omitted.

[0037] As shown in drawing 6, the shielding layer 13 is equipped with the metal ring 70 among the shielding electric wires 10. Moreover, from the end of a metal ring 70, while two or more protruding pieces 71 \*\*\*\*\* and are formed towards the side, penetration formation of the hole 71A is carried out at each protruding piece 71. And it is stuck to the shielding layer 13 by pressure, and a metal ring 70 is stabilized mutually, and flow connection is made and it is laid underground in the housing 73 of the following \*\*.

[0038] Conductive synthetic resin constitutes housing 73 from this operation gestalt. Housing 73 exposes the shielding layer 13, is in the condition which stuck said metal ring 70 to it by pressure, inserts the shielding electric wire 10 in the metal mold for resin shaping, and, more specifically, is fabricated in the shape of [ corresponding to the terminal metallic ornaments 20 ] L character with the conductive synthetic resin with which it was filled up in the metal mold. Moreover, the flange 74 pressed against the partner shielding wall 50 is also really fabricated by housing 73.

[0039] Thus, according to the shielding connector of this operation gestalt, since housing 40 consists of conductive synthetic resin and sticks to the shielding layer 13 of the shielding electric wire 10, the housing 40 whole serves as and has the role of the shielding member which covered the terminal metallic ornaments 20, and much more reduction of components mark and the miniaturization of a shielding connector are attained. And a metal ring 70 is stuck to the shielding layer 13 by pressure, and is stabilized mutually, it is installing two or more protruding pieces 71 from a metal ring 70, and it contacts in the housing 73 which consists of conductive synthetic resin, and a large area, and it is stabilized mutually and flow connection is made while flow connection is made. Thereby, through a metal ring 70, the conductive housing 73 and the shielding layer 13 of the shielding electric wire 10 are stabilized, and flow connection is made.

[0040] The <4th operation gestalt>, then the 4th operation gestalt of this invention are explained considering drawing 7 as reference. In addition, below, only a different configuration from the above-mentioned 1st operation gestalt is explained, and the explanation which overlaps while attaching the same sign is omitted about the same configuration as the 1st operation gestalt.

[0041] The 1st sticking-by-pressure section 82 and the 2nd sticking-by-pressure section 83 which were formed in Itabe's 81 both ends which the terminal metallic ornaments 80 carried out rigid-angle bending of the metal plate on the way, and were formed in the shape of L character by curving in the shape of [ both ] U character are prepared. While the core wire 11 of the shielding electric wire 10 is stuck by pressure, the core wire 96 of the junction electric wire 95 of a configuration of having covered the core wire 96 by pre-insulation 97 is stuck to the 2nd sticking-by-pressure section 83 by pressure by the 1st sticking-by-pressure section 82. Where both the electric wires 10 and 95 are stuck by pressure, the insulating tube 84 of heat shrink nature is put on these terminal metallic ornaments 80, and on both sides of the terminal metallic ornaments 80, it is stuck to an insulating tube 84 from the edge of the internal insulating layer 12 of the shielding electric wire 10 by heating this insulating tube 84 and making it contract to the whole field covering the edge of the pre-insulation 97 of the junction electric wire 95.

[0042] It is covered after the shielding member 85 made tubed has stuck the braided wire to the outside of an insulating tube 84. Where sheathing of the end of the shielding member 85 is carried out to the shielding layer 13 of the shielding electric wire 10, the U character-like piece 26 of sticking by pressure is stuck by pressure from an outside. Where sheathing of the other end of the shielding member 85 is carried out to the conducting sleeve 87 inserted in the terminal insertion hole 90 of the electric conduction flange 86, the U character-like piece 27 of sticking by pressure is stuck by pressure from an outside. Thereby, flow connection of the shielding member 85 is made at the shielding layer 13 and a conducting sleeve 87. And the shielding member 85 is being fixed to the adhesion condition to the insulating tube 84 by the holddown member 88 which consists of copper wire being twisted around the outside of the shielding member 85.

[0043] While the electric conduction flange 86 consists of metal plates, the appearance serves as a pear configuration so that drawing 1 may be considered as reference. While the bolt insertion hole 89 and the terminal insertion hole 90 penetrate and are formed, two or more 1st resin incurrent pores 91 by cutting the hole edge of the terminal insertion hole 90 partially are penetrated and formed in the electric conduction flange 86. It is the location which shifted in the direction of a path from the 1st resin incurrent pore 91 on the predetermined dimension outside, and two or more 2nd resin incurrent pores 92 are penetrated and formed in the location [ hoop direction ] shifted the degree of predetermined angle in the 1st resin incurrent

pore 91 at the electric conduction flange 86.

[0044] The terminal section of the shielding electric wire 10 connected by the terminal metallic ornaments 80 and the junction electric wire 95 is covered by the seal barrel 93 which consists of synthetic resin, and the seal barrel 93 is further covered with housing 94. The seal barrel 93 inserts the shielding electric wire 10 and the junction electric wire 95 to a primary molding die, changes into a melting condition insulating synthetic resin (for example, urethane) softer than the resin which constitutes housing 94, and is filled up with and formed in metal mold at a detail. At this time, the synthetic resin of a melting condition spreads before and after the electric conduction flange 86 through the 1st resin incurrent pore 91 of the electric conduction flange 86. The situation of the shielding member 85 deforming the shielding member 85 in this process with the injection pressure of the synthetic resin with which it fills up in metal mold since it is being fixed to the insulating tube 84 by the holddown member 88 in the state of adhesion, or receiving damage is prevented as much as possible. The seal barrel 93 is fabricated in the shape of [ which met the terminal metallic ornaments 80 ] L character, and the field covering the edge of the pre-insulation 97 of the junction electric wire 95 fabricates an insulating tube 84 and the whole shielding member 85 from the edge of the external covering 14 of the shielding electric wire 10 with a wrap. The surroundings of the shielding electric wire 10 and the junction electric wire 95 are maintained by this seal barrel 93 in the shape of liquid dense. On the other hand, what fabricated the seal barrel 93 as mentioned above is inserted to a secondary molding die, housing 94 changes insulating synthetic resin (for example, polyamide) into a melting condition, and it is filled up with it in metal mold, and it is fabricated. At this time, the synthetic resin of a melting condition spreads before and after the electric conduction flange 86 through the 2nd resin incurrent pore 92 of the electric conduction flange 86. And housing 94 is fabricated in the shape of [ in alignment with the seal barrel 93 ] L character, and the electric conduction flange 86 is fixed in the middle of one side of L characters.

[0045] The shielding connector of this operation gestalt constituted as mentioned above is attached in the partner shielding wall 50. The fitting section 41 of housing 94 is fitted into a through tube 51, inserting in a through tube 51 into the partner shielding wall 50 first in installation through the junction electric wire 95 drawn from housing 94 on the right-hand side of illustration from a tip side (the edge stuck to the 2nd sticking-by-pressure section 83 by pressure is an edge of the opposite side). A shielding connector is fixed to the partner shielding wall 50 by \*\*\*\*ing the bolt B' which it let pass to the bolt insertion hole 89, and screwing in a hole 52, pressing the electric conduction flange 86 against the opening edge of a through tube 51. At this time, the shielding electric wire 10 drawn from housing 94 is in the condition of having extended in parallel with the partner shielding wall 50, out of the partner shielding wall 50. On the other hand, since the junction electric wire 95 inserted into the partner shielding wall 50 can be managed to the free sense in the partner shielding wall 50, it can be bent, for example in the shape of L character, and can be extended to the sense parallel to the partner shielding wall 50. Thereby, it can arrange in the free location within the partner shielding wall 50 about the connection part by the side of the device which connects the tip side of the junction electric wire 95 (not shown). It has and it becomes possible to attain space-saving-ization within the partner shielding wall 50.

[0046] It is not limited to an operation gestalt and an operation gestalt which is explained below is also included in the technical range of this invention, and further, within limits which do not deviate from a summary besides the following, operation gestalt > this invention besides < can be changed variously, and can be carried out.

[0047] (1) Although housing was used as the insertion mold goods concerning the shielding electric wire 10 with said each operation gestalt, it is good also as a configuration which fabricates housing beforehand and is attached to a shielding electric wire, for example. After more specifically considering tubed housing crooked in the shape of L character as the configuration divided into two at vertical division and sticking L character-like terminal metallic ornaments to a shielding electric wire by pressure, it is good also as a configuration held and attached so that they may be inserted between housing divided into two.

[0048] (2) Although the shielding member 25 which consists of a braided wire was connected to the shielding layer 13 with said 1st operation gestalt, it is good also as a configuration which extended shielding layer 13 the very thing of the shielding electric wire 10 for a long time, and was replaced with the shielding member 25, for example.

[0049] (3) Moreover, in said 1st operation gestalt, the outside of the shielding member 25 which consisted of braided wires can be covered with the insulating tube of heat shrink nature, and it can also be made a compact configuration on both sides of the shielding member 25 by shrinking this between the insulating tube and the insulating tube 24 of terminal metallic-ornaments 20 external surface.

[0050] (4) It is good also as a configuration which applied the insulating resin of a melting condition to the

predetermined part of terminal metallic ornaments with said each operation gestalt, for example although terminal metallic ornaments were covered with the insulating tube 24 of heat shrink nature.

[0051] (5) Although the above-mentioned 1st and 2 operation gestalt showed the case where predetermined spacing was secured between the shielding member and the insulating tube which wraps terminal metallic ornaments In case housing is fabricated, when there is a possibility of a shielding member deforming with the resin pressure of the synthetic resin of the melting condition with which it fills up in metal mold, or receiving damage While attaching a shielding member in an insulating tube in the state of adhesion, you may make it fix by holddown members, such as copper wire, from the outside like the above-mentioned 4th operation gestalt.

---

[Translation done.]

\* NOTICES \*

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

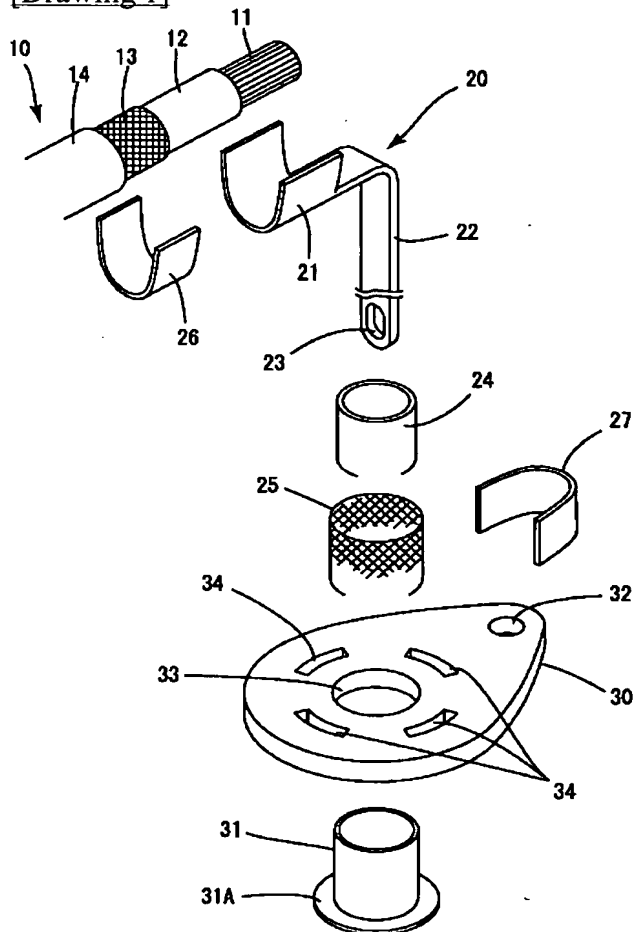
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

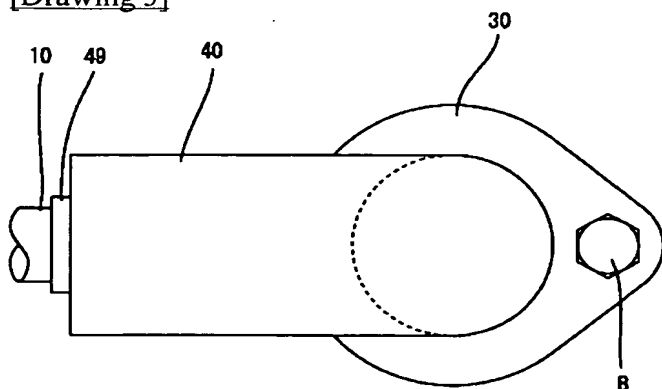
DRAWINGS

---

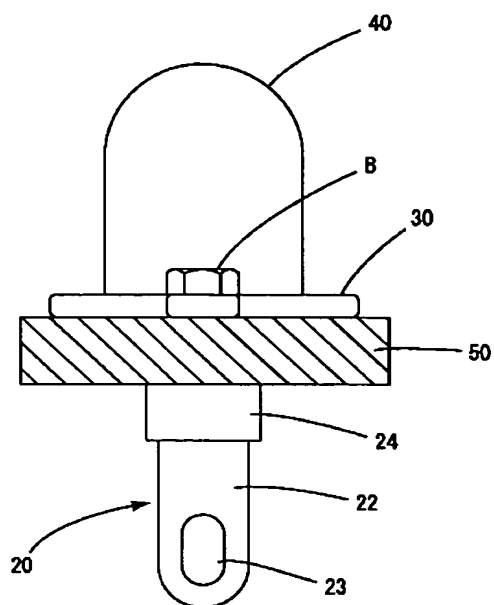
[Drawing 1]



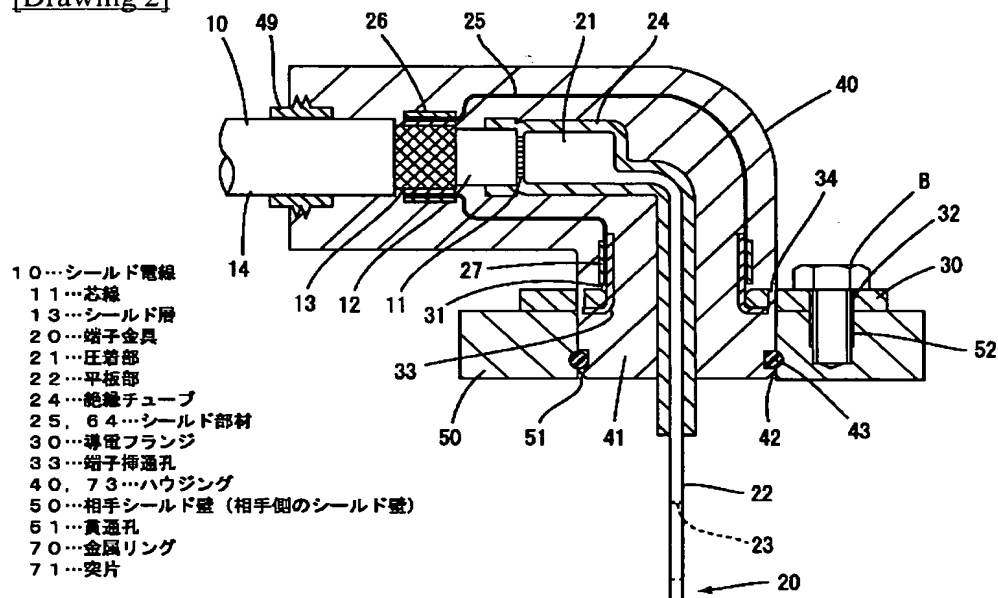
[Drawing 3]



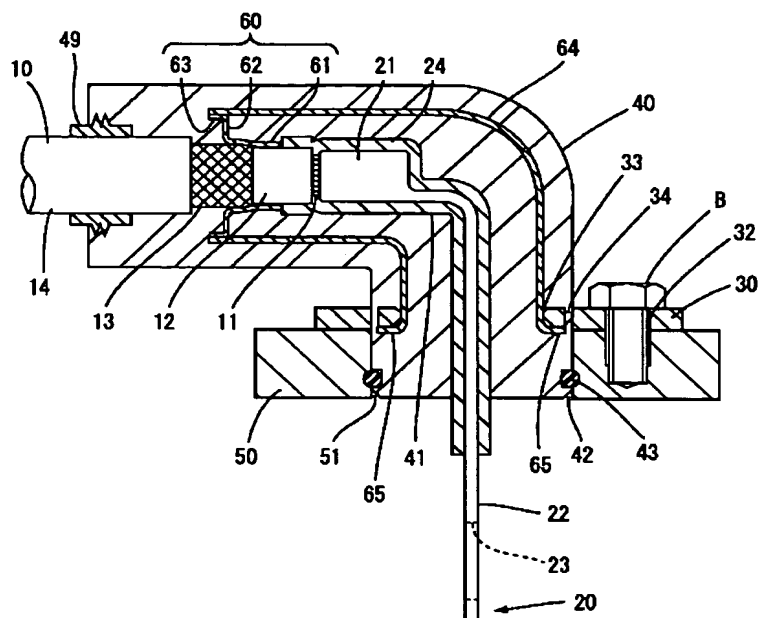
[Drawing 4]



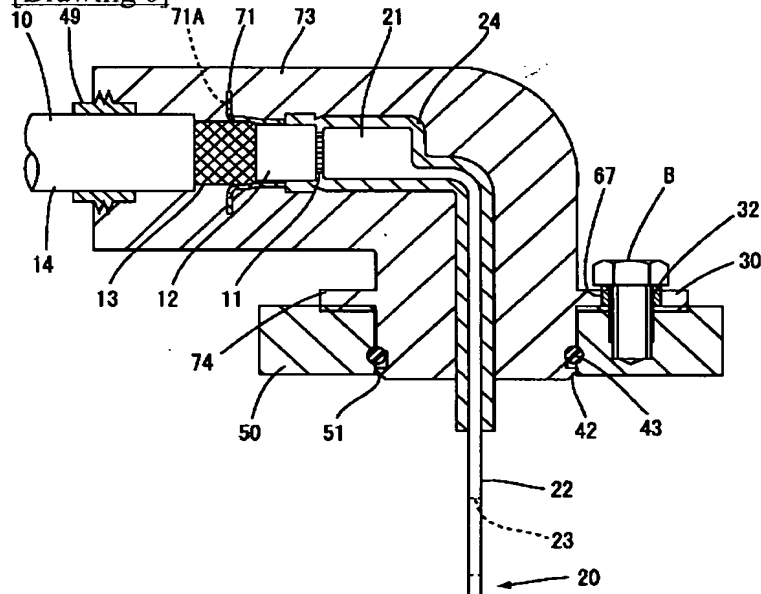
[Drawing 2]



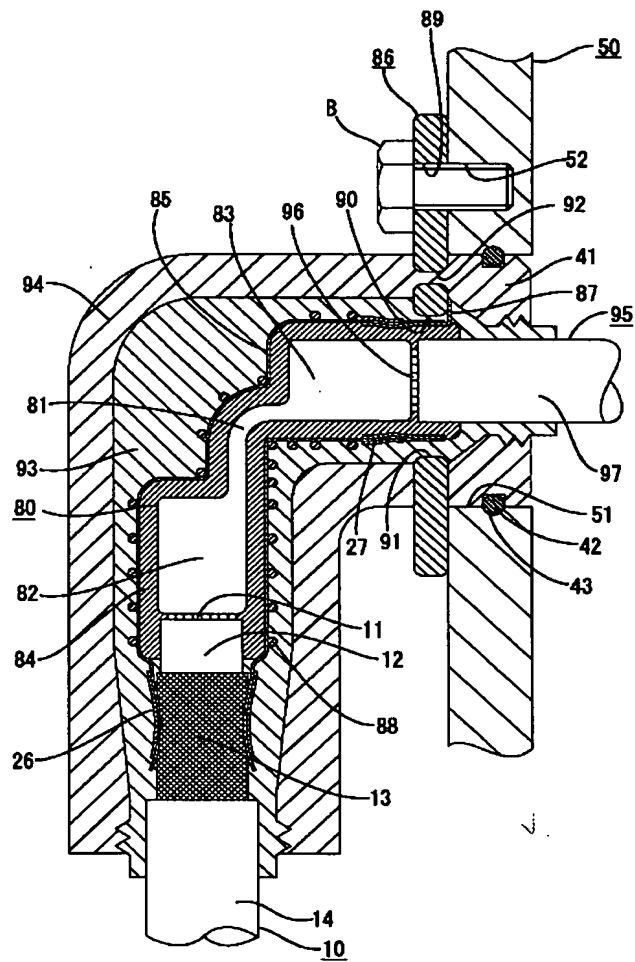
[Drawing 5]



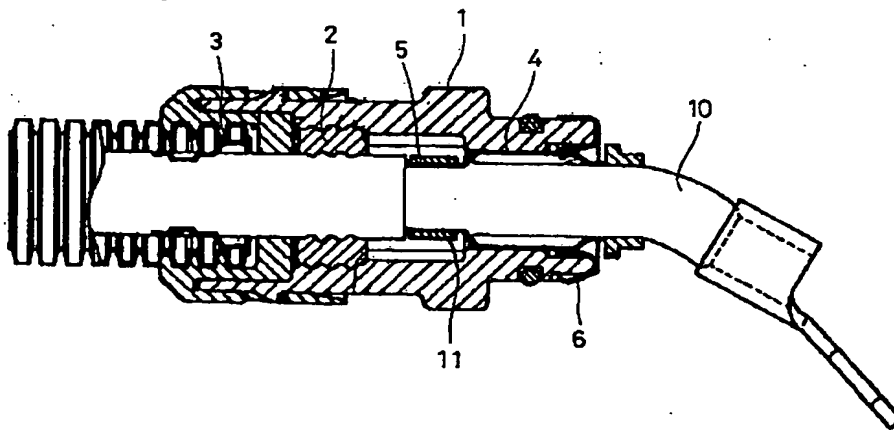
[Drawing 6]



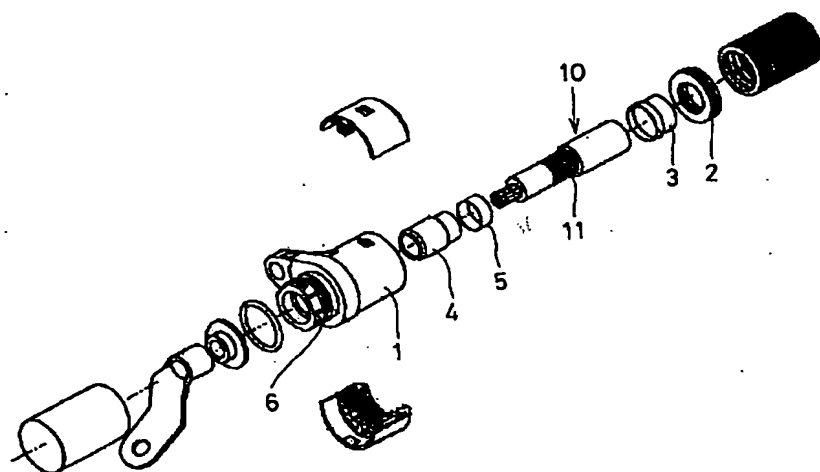
[Drawing 7]



[Drawing 8]



[Drawing 9]



---

[Translation done.]